Camera KIEV-60TTL

INSTRUCTIONS FOR USE

TENTO
SSSR • MOSKVA

Since efforts are continually made to improve the reliability and performance of the product, minor changes be introduced without special notice.

1. GENERAL

The KIEV-60 TTL is a reflex camera with frame size 6×6 cm of the TTL system. The camera is designed for the use of a roll non-perforated photographic film of 61.5 mm in width, type 120 (12 pictures can be taken using this film). It is intended for amateur picture-taking.

The camera operates in the temperature interval from minus 15 to plus 45 °C.

The curtain shutter of the camera provides speeds in the range of $^1/_{1000}$ to $^1/_2$ s and manual exposure "B".

The shutter cocking mechanism is of the lever type, interlocked with the film-transport mechanism and frame counter.

The camera is focused through a ground glass surface, microscreen and wedges located in the centre of the field of vision of the view-finder.

The back of the camera is thrown back on a hinge.

The scale of the frame counter returns into its initial position automatically when the back of the camera is opened.

The camera is provided with a synchronizer for operation with a flash lamp.

The camera is outfitted with lens MC VOLNA-3. The lens focal length is 80 mm, the relative aperture is 1 : 2.8, the diaphragm setting limit is 22.

The lens is provided with the special multilayer coating (MC) which upgrades the image quality, enhances its contrast due to better integral transparence and reduced light dispersion of the lens.

Provision is made in the camera for the use of change lenses produced for the KIEV-6C camera. Change lenses of the PENTACON SIX camera can also be used. The lenses are bayonet-attached and are fixed in position with a captive nut.

Besides the TTL prism view finder the camera complete set comprises a view finder hood.

The view finder hood enables the picture to be viewed on the ground glass with or without a magnifying lens and allows the use of the frame view finder for viewing. The field of vision of the view finder hood measures 53×53 mm.

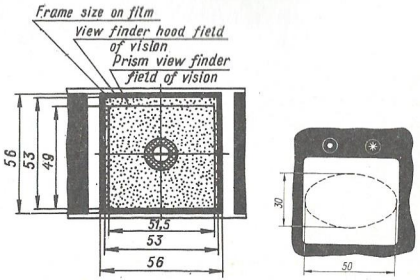
Magnification of the prism finder eyepiece is 2.5^{x}, the field of vision measures 49×51.5 mm. The field of vision sketch when operating with changeable view finders is shown in the Figure.

The eyepiece design allows for application of diopter lenses. To install the diopter lens undo the clamping ring of eyepiece *39*, set into the fitting socket a lens of 16 mm in diameter and fasten it by the clamping ring.

The exposure time meter with light indication determining the exposure time by the light which have passed through the lens is located in the housing of the prism view finder. Advantage and convenience of the TTL measurement system is in automatic control of all factors affecting the value of the exposure time. The zone of measurement of the exposure time meter is in the central part of the view finder field of vision and has an oval shape (see the Figure).

The exposure time meter ensures measurements in the range of brightness from 1.6 to 13 000 cd/m², in this case the following values should be taken into account: film-in-use speed (8 to 1000 units of GOST or 10 to 31 units of DIN), exposure time $^{1}/_{1000}$ to 8 s) and diaphragm (1.4 . . . 32).

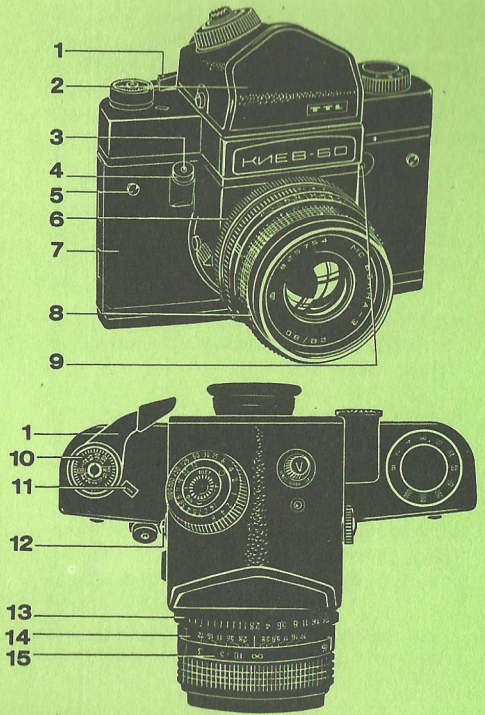
N o t e: The point on the film speed scale corresponds to 1000 units of GOST.



A cell of 4 V voltage (dia. 16.5 mm, length 22 mm) is used as a power source of the exposure time meter. Fitness of the power supply source is checked with the help of the lighting signal located on the view finder housing.

2. LIST OF STANDARD EQUIPMENT

Camera with lens MC VOLNA-3, prism view finder TTL with eye shade and spool (set)	1
View finder hood	1
Light filters:	
УФ-1^{x} (UV-1^{x})	1
ЖЗ-1,4^{x} (YG-1.4^{x})	1
Extension tube:	
20 mm long	1
40 mm long	1
Straight thread	1
Lens front cap	1
Lens rear cap	1
Blind cap for camera	1
Direct-type view finder cap	1
Carrying (shoulder) strap	1
Arm	1
Lens hood	1
Carrying case	1
Instructions for Use	1
Packing box	1



3. CAMERA PRINCIPAL UNITS AND PARTS

1 — shutter cocking lever;
2 — prism view finder TTL;
3 — straight thread fastening socket;
4 — release button;
5 — button for fastening the strap;
6 — lens-locking-in-position captive nut;
7 — housing;
8 — lens;
9 — arm fastening socket for flash lamp;
10 — film-in-use speed scale;
11 — frame counter window;
12 — view finder lock button;
13 — diaphragm scale;
14 — diaphragm scale for determining depth of field;
15 — distance scale;
16 — exposure time knob;
17 — back;

18 — centre for fitting take-up spool;
19 — centre for fitting film spool;
20 — depth-of-field control lever;
21 — tripod socket;
22 — take-up spool lock;
23 — replaceable eye shade;
24 — delivery spool lock;
25 — back lock

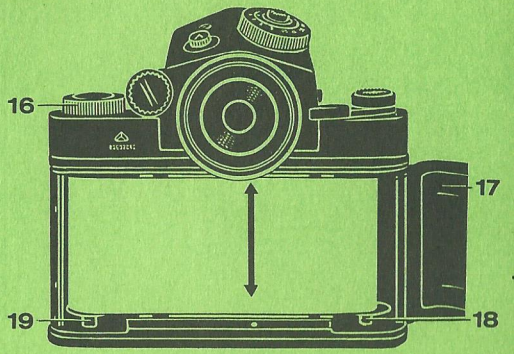
4. OPERATING PROCEDURE

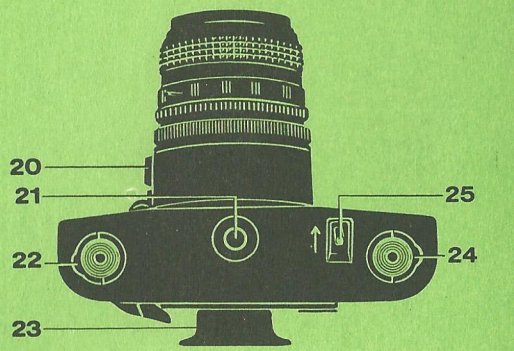
4.1. Loading

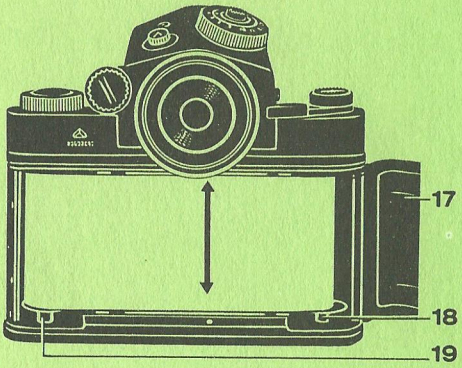
The camera can be loaded in the light (preferably in the shadow).

Take the camera out of the carrying case.

Open back *17* having preliminarily shifted along the arrow up to the stop and depressed button *25* located on the lower cover.







Pull locks *22* and *24* by the clips, turn them counterclockwise and fix, this will bring centres *18* and *19* down.
Insert the take-up spool into the right-hand chamber of the camera so that the upper centre carrier fits its slot. Holding the spool, introduce lower centre *18* into its hole turning lock *22* clockwise.
Tear the paper tag off the leader end.

Insert the spool with a film into the left-hand chamber of the camera so that the carrier of the upper centre enters the spool slot. Holding the spool and leader by a hand to prevent the latter against unfolding, put lower centre *19* through the spool hole, turning lock *24* clockwise.
Thread the leader end into the take-up spool and turning the latter wind the leader onto it until the mark on the leader aligns with the red index on the camera housing.
To obtain the full specified number of pictures on the film and to ensure operation of the frame counter observe the following rules:
when loading wind the leader tightly on the take-up spool;
take measures against leader cocking, creeping over the spool flange or crumpling leader edges;
cocking the shutter, take care to bring the lever to the stop in one motion (do not cock the shutter, making several small turns of the lever).
Close the back pressing it to the camera until a click is heard.

4.2. Preparing for Shooting

Make three blank shots to wind the leader onto the take-up spool. Now after the shutter is cocked the next time figure "1" will appear in frame counter window *11* which corresponds to the first frame on the film.

Set the film-in-use speed on scale *10*, proceeding as follows: holding lever *1*, turn the disk with scale *10* until the film speed number aligns with the index.

The film speed scale is given in units of GOST and DIN.

4.3. Shooting

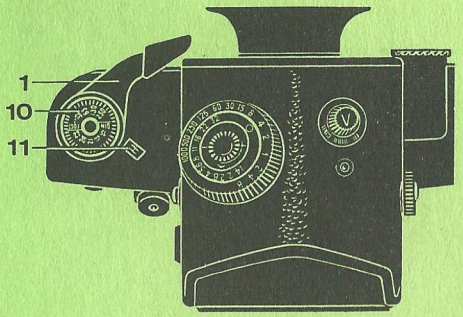
Shooting with the camera consists of the following steps:

shutter cocking and film transport;

determining the exposure time (shutter speed and diaphragm);

exposure time setting;

diaphragm setting;



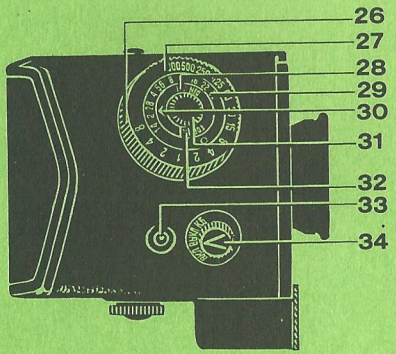
focusing;

view finding;

shutter release.

Cock the shutter, turning lever *1* up to the stop. If the shutter is cocked fully, the lever will automatically return to the initial position, if not, it will remain in an intermediate position (in this case it should be additionally cocked). An incomplete cocking of the shutter should be avoided.

At the beginning of cocking the shutter a slight gradient of force applied



to the lever may be felt. In cocking the shutter the film is wound through one frame and the next number appears in the frame counter window. The counter indicates the number of frames shot.

Determination of the exposure time is carried out with the shutter being cocked.

For determining the exposure time set on the calculator the speed of the film loaded into the camera turning knob *31* until the film speed values in units of GOST and DIN appear in windows *32* und *28*.

Note: In connection with the introduction of a new series of the film sensitivity numbers expressed in units of GOST/ISO it is essential to use the Table given below in setting the film sensitivity values on the calculator.

Scale marking, GOST/ISO	Film sensitivity number of photographic material being used	
	GOST/ISO (ASA)	DIN
6	5; 6; 8	9
12	10; 12; 16	12
25	20; 25; 32	15
50	40; 50; 64	18
100	80; 100; 125	21
200	160; 200; 250	24
400	320; 400; 500	27
800	640; 800; 1000	30
1600	1250; 1600; 2000	33
3200	2500; 3200; 4000	36

Set on the calculator the lens speed turning scale *29* until the appropriate value coincides with index *30*.

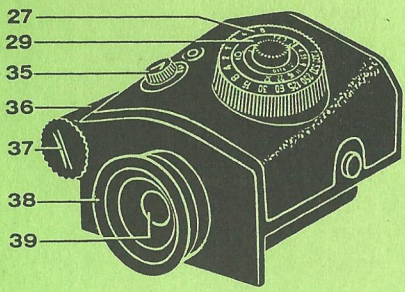
The lens speed means the number corresponding to the maximum relative aperture. For example, for lens MC VOLNA-3 — 2.8.

For determining the "exposure-diaphragm" pair corresponding to the shooting conditions do the following procedures:

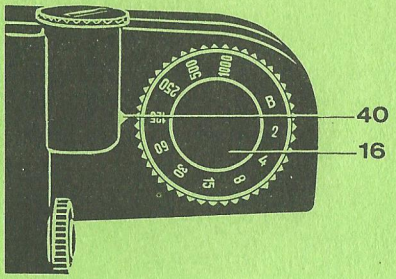
check fitness of the power source, turning knob *35* until index *34* coincides with position КБ. The monitor signal should light in window *33*. If it does not light, it is necessary to replace the power source;

turn on the exposure meter setting knob *35* into position ON;

observing through view finder eyepiece *39* sight the camera onto the object of shooting so that its image will arrange in the ranges of the zone of measurement of the view finder;



in the field of vision of the view finder eyepiece You will see one of lighting signals: ◎ — little light or ✳ — much light. Slowly turn ring *26* up to the moment of lighting of the second signal (if signal ◎ is lit — counterclockwise, if signal ✳ clock-



wise). Determination of the exposure time is carried out at simultaneous lighting of signals ◎ and ✳; choose the "exposure-diaphragm" pair which is necessary for shooting on the calculator by exposure scale *27* and by diaphragm scale *29*;

upon determining the exposure time turn out the exposure meter, for this purpose turn knob *35* to position OFF.

Note: In the event of the bright light the light should not be permitted, as far as possible, to penetrate into the eyepiece. In this instance eye shades *38* and *23* should be used.

Set the chosen "exposure-diaphragm" values on the camera exposure time knob scale and on the lens diaphragm scale.

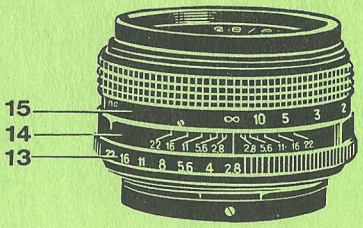
Exposures may be set both with the shutter released and cocked turning knob *16* until the selected number aligns with index *40* on the top cover. Setting of exposures from $^1/_{1000}$ to $^1/_{60}$ s with the shutter released requires somewhat more effort than when the shutter is cocked.

Manual exposure "B" setting should be accomplished by turning the knob clockwise only (between shutter speeds $^1/_{1000}$ s and "B" the ring is locked).

Set the diaphragm, turning ring *13* until the selected value aligns with the index on the stationary ring. The scale is fixed at all diaphragm values.

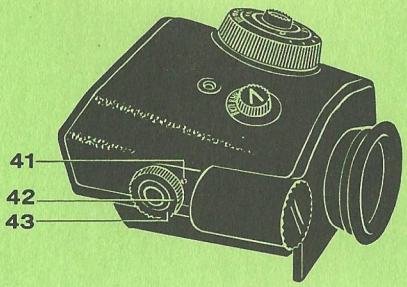
Focusing for sharp image either by the ground surface, micro-screen and wedges or by the distance scale is accomplished, turning the ring with scale *15*. Focusing can be carried out only with the shutter cocked, when the mirror is in the working position and the diaphragm is fully open.

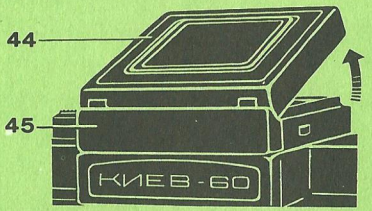
Depth of field is determined by the distance scale with the aid of additional scale *14*. Depth of field can be checked by the image of the object's details on the ground glass surface in the field of vision of the view finder, after pressing lever *20* down to the limit of its travel, then the lens will be diaphragmed to the opening set previously. After the lever is let go, it



will automatically return to the initial position and the diaphragm will fully open.

Depending on the definite conditions of the picture shooting, view finding can be carried out by the use of the view finder hood.





To replace the TTL prism view finder by the view finder hood proceed as follows:

turn ring *43* clockwise until it aligns with indexes *42* and *41*. Depress buttons *12*, lift the TTL prism view finder up;

set view finder hood *45* on the guide pins (in so doing make certain that it is well secured on the camera).

Open the view finder hood, turning front wall *44* in the direction of the arrow illustrated in the Figure. In its end position the front wall of the hood is locked and the side and rear walls are automatically folded down.

When lock lever *46* is shifted up, view finder lens *47* is set to the working position.

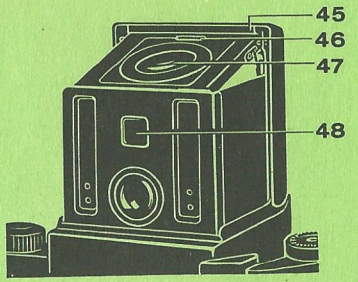
Upon completion of shooting with the aid of the view finder hood, press the view finder lens wall to the front wall of the view finder until the in-

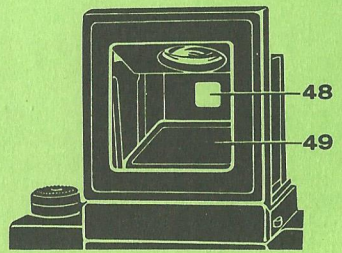
dexing lever snaps it in, then fold up the side walls (first left-hand, then right-hand), then the rear wall, and holding the latter, return the front wall into the initial position.

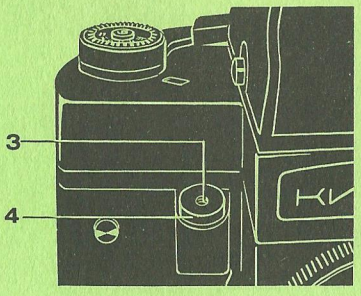
In prompt shooting (such as sports photography) the view finder hood can be used as a simple frame view finder. Then window *48* in the rear wall of the view finder hood will serve as one frame and the window in the front wall, closed in the non-working position with cover *49*, as the other. The cover, when depressed, will turn and lock in the end position.

In shooting with the frame view finder focusing is effected either by the use of lens distance scale *15* or by the ground glass through the eyepiece.

To fold down the frame view finder depress the wall of eyepiece lens *47*, in this case cover *49* will return to the initial position.







After folding down the frame view finder, close the view finder hood as explained previously.

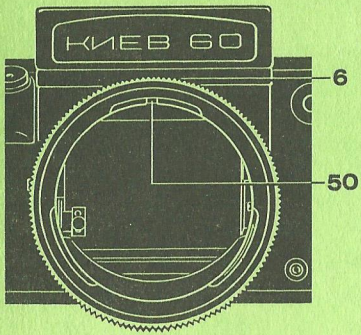
To release the camera shutter, gradually depress release button *4* up to the stop. During this action the lens will be diaphragmed, the mirror automatically rises and the shutter operates.

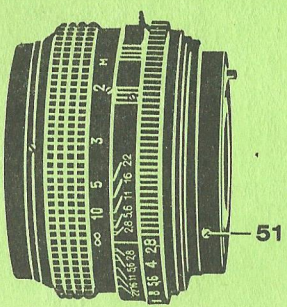
Shooting with exposures in excess of $^1/_{30}$ s should be performed by the use of the tripod. The tripod socket in the camera is provided with the $^3/_8$" thread. The shutter is released with the aid of the straight thread which is screwed into socket *3* of the release knob.

4.4. Unloading the Camera

Shooting can be carried out until the "K" letter (end) appears in the frame counter window which indicates that the film is used up. Then it is necessary to wind the remaining paper leader on the take-up spool with the aid of the shutter cocking lever. Since in this position the shutter cocking mechanism is disconnected, the release button may not be depressed each time after cocking.

Upon completion of rewinding (when rewinding is over, the force applied to the cocking lever diminishes) open the back of the camera, move out the take-up spool centre and remove the spool with the used film.





5. REPLACING THE LENS

The camera is adapted for the use of interchangeable lenses. To remove the lens turn nut *6* counterclockwise up to the stop and disconnect the lens from the camera.

When installing the lens, it is necessary to fit it into the camera so that guide pin *51* of the lens gets into slot *50* on the camera housing. Then turning the nut clockwise to the limit of its travel clamp the lens on the housing.

The following interchangeable lenses are produced for the KIEV-60 TTL camera.

Lens	Relative aperture	Focal length, mm	Angle of field of vision
ZODIAK-8Б (wide-angle)	1 : 3.5	30	180°
MIR-26Б (wide-angle)	1 : 3.5	45	83°
MIR-38Б (wide-angle)	1 : 3.5	65	66°
MC VEGA-28Б (long-focus)	1 : 2.8	120	36°
KALEJNAR-3Б (long-focus)	1 : 2.8	150	28°
JUPITER-36Б (long-focus)	1 : 3.5	250	19°
ЗМ-3Б (telephoto-lens)	1 : 8	600	7.5°

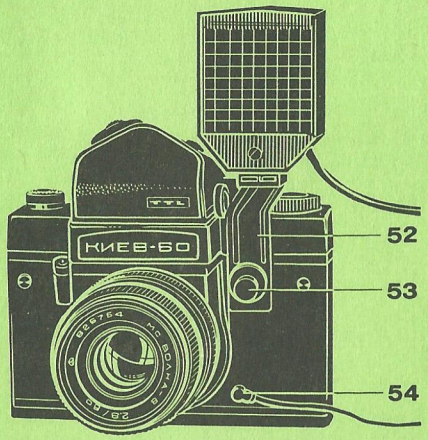
6. FLASH PHOTOGRAPHY

The KIEV-60 TTL camera is provided with the synchrocontact with receptacle *54* for the connection of a flash lamp. To install the flash lamp the camera complete set is provided with arm *52* which is fixed to the camera housing with the aid of screw *53*.

Shooting with flash lamp is performed with exposures from $^1/_{30}$ to $^1/_2$ s.

7. MACROPHOTOGRAPHY

Close-up photography of small objects (macrophotography) can be accomplished using rings supplied with the camera in the set of spare parts and accessories. The use of the rings enables shooting to be made at a distance less than 0.6 m which is minimum for the MC VOLNA-3 lens. The rings are installed as required between the camera



housing and the lens similarly to the installation of interchangeable lenses. The rings can be attached together (in which case the distance to the object will be the minimum and make up about 0.3 m).

When operating with the view finder hood and when using the rings, increase the exposure time found with the aid of the exposure meter in accordance with the data given in the Table.

Designation of ring fitted on the camera, mm	Coefficient of increase of exposure time found with the aid of exposure meter (with lens distance scale set to 0.6 m)
20	2^x
40	3^x
60 (both rings together)	3.5^x

During operation with the TTL prism view finder influence of the rings on the value of the exposure time is taken into account automatically.

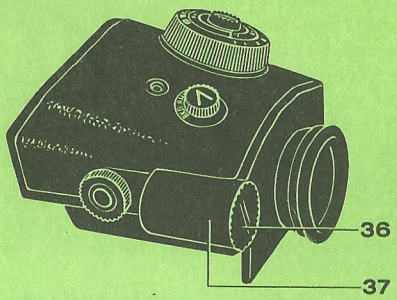
8. INSTALLATION AND REPLACEMENT OF POWER SOURCE

Unscrew lid *37* with the help of a coin installed into the slot of the lid.
Set the power source in socket *36* locating it with its plus side to the lid (on the internal side of the cover mark "+" is engraved).

9. USE OF LIGHT FILTERS

The camera set is provided with light filters used as attachments which can be screwed into the front part of the lens (thread M62×0.75).

The achromatic light filter УФ-1^{x} (UV-1^{x}) is used for weakening the effect of ultraviolet rays, for example, when taking pictures under highmountain conditions, it is also helpful in colour photography.



The light yellow-green filter ЖЗ-1,4^{x} (YG-1.4^{x}) improves tone reproduction of multicolour objects on high-sensitive photographic materials with a slight loss of their sensitivity. Virtually correct tone reproduction of multicolour objects is achieved by the use of the filter on medium sensitivity films.

10. CAMERA UPKEEP

The camera should be handled with care, kept clean, guarded against jolts, strikes, moisture and abrupt temperature fluctuations.

The camera should be kept in the closed carrying case. The lens should be closed with the cap and the change view finder attachment should be in the case socket.

The lens should not be removed from the camera, if not necessary, so as to keep dust off the surface of the optical parts. If the camera is stored without the lens, the aperture in the camera as well as the lens should be closed with caps.

Wipe the surfaces of the optical parts with clean soft cloth or with cotton slightly wetted in rectified spirit or ether.

When bringing the camera into a warm room from frosty weather do not take it out of the case at once. It is recommended to let it warm gradually (for two hours) in the case.

Do not exert excessive force in manipulating the camera. In case of some troubles or damage do not attempt repairing the camera by yourself. The camera must be repaired or adjusted only by specialists.

Important! The camera curtains are made from light-tight rubberized fabric and to preserve it against deterioration the following measures should be taken in shooting in the sun: remove the lens cap and open the view finder hood immediately before shooting:

do not direct the camera lens towards the sun;

do not leave the camera in the sun during long-term outage between shootings.

11. ACCEPTANCE CERTIFICATE

It is hereby certified that camera KIEV-60 TTL, Serial No. 512 with lens No. 0116, prism view finder TTL No. 0711 complies with the requirements of the engineering documentation and is found fit for service.

Date of manufacture 20.03.2003

Signature of persons responsible for acceptance

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BATTERY

EVEREADY 357
VARTA V357
SONY SR44W

TENTO

SSSR·MOSKVA